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ABSTRACT

Change processes at the school building level are considered in order to formulate a number of locally based strategies, derived from research, for significantly improving schools and classrooms. Part I of the three-part analysis examines, through illustration, what is known about successful change processes at the school and classroom levels. Four particularly revealing studies are reviewed: (1) Huberman's case study of the ECRI reading program, (2) Stallings's program on improving the teaching of reading in secondary school classrooms, (3) Showers' work on the transfer of training, and (4) Little's research on school norms and school success. Part II is a discussion of limitations in our knowledge of how to bring about change and of the limits in moving from knowledge to strategies for implementation. Part III considers strategies and ideas that might be employed by local personnel in accomplishing school-level improvements: (1) developing a plan, (2) clarifying and developing the role of central staff, (3) selecting innovations at schools, (4) clarifying and developing the role of principals, (5) stressing staff development and technical assistance, (6) ensuring information gathering and use, (7) planning for continuation and spread, and (8) reviewing capacity for future change. (TE)

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Change Processes and Strategies at the Local Level

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"Reformers have the idea that
change can be achieved by brute sanity."
George Bernard Shaw

The search for effective strategies for bringing about school improvements is a tantalizing affair. On the one hand, research in a number of areas -- on school effectiveness, classroom effectiveness, staff development, leadership, and implementation -- is increasingly convergent and detailed in identifying factors related to improvement. And the findings make common sense. On the other hand, we know that deliberately attempting change is a complex, dilemma-ridden technical, sociopolitical process. Looked at one day, in one setting, successful educational change seems so sensible and straightforward; on another day, in another situation, improvement cannot be attained with the most sophisticated efforts. Change is at once simple and complex, and therein lies its fascination. The goal of developing more effective strategies for school improvement is the same as Alfred North Whitehead's characterization of science: "the aim of science is to seek the simplest explanations of complex facts [but] seek simplicity and distrust it."

The purpose of this paper is to consider change processes at the school building level in order to formulate a number of locally based strategies (at the school and district level) which hold out some promise for significantly improving schools and classrooms. The intention is to suggest change strategy implications arising from the effective schools research. To do this we must recognize (a) the consistent powerful messages in this body of research, (b) the limitations of this research vis-a-vis knowledge about <u>change processes</u>, and (c) draw on other literature which does provide data and insights into local district

and school improvement processes. I attempt to be clear and specific (the simple side) and cautionary (the complex side). Considerable attention in the paper is devoted to explaining how change processes actually work because these processes are not well described or understood in the effective schools literature, and such an understanding is a necessary precondition for designing effective strategies for improvement.

The analysis is developed in three parts. Part I examines through illustration, what it is we know about successful change processes at the school and classroom levels. The emphasis is on the actual processes whereby individuals in a group setting change. In Part II I discuss the limitations of our knowledge about how to bring about change, as well as the limits of moving from knowledge we do have, to strategies for using that knowledge. With parts I and II as context, I turn in the final section to a consideration of alternative strategies and ideas within strategies which might be employed by local personnel interested in accomplishing improvements at the school level.

I CHANGE PROCESSES WITHIN SCHOOLS

Despite a great deal of very good research on factors related to school improvement,[1] we do not have much specific knowledge about how and why improvement occurs. The simple but powerful phrase "change is a process not an event" connotes that something is happening over a period of time to transform individuals and situations (Hall and Loucks, 1977). The question in this section is "what do we really know about the micro-processes of transformation". When we describe an effective

[1] For reviews see the following selected sources: on school effectiveness Cohen (1983), Purkey and Smith (1983); on classroom effectiveness Brophy (1983); on staff development, Joyce and Showers (1980); on principal leadership, Leithwood and Montgomery (1982) and Dwyer et al, (1983); on implementation see Crandall et al, (1983), and Fullan (1982).

school and identify the factors associated with its success, what would we need to know in order to understand how it got that way.

The vast majority of research on school improvement ignores the specific dynamics of change, but some research studies are better than others in taking us closer to the nature of the change process qua process. Studies which trace change over a period of time (even short periods) are essential to inferring how people change. We need to go beyond theories of change (what factors explain change) to theories of changing (how does change occur, and how to use this new knowledge).

In order to illustrate what might be called an emerging theory of change processes within schools, I will draw on four recent studies of successful change which are particularly revealing of the nature of the process at work. The studies are (1) Huberman's (1981) case study of the ECRI program, (2) Stalling's program on improving the teaching of reading in secondary school classrooms, (3) Showers' (1983a, 1983b) work on the transfer of training and (4) Little's (1981) research on school norms and school success.[2] The main purpose in describing these cases is not to generate a complete list of factors associated with improvement, but rather to provide some insight into how successful change processes might be operating at the individual teacher level in a school context.

1. Huberman's Study of ECRI (see also Huberman and Crandall, 1983)

ECRI is a structured reading instruction program available through the National Diffusion Network. Huberman conducted a case

[2]Note that none of these studies come from the "effective schools" research which is indicative of the fact that this research has not examined processes of change (some very recent work moves in this direction, e.g., Clark and McCarthy, 1983, but still does not analyze the processes at work). In the change literature, Huberman and Miles (1983), and Huberman and Crandall, 1983 are especially revealing and detailed sources of description of successful change process at the local level (in section III I draw more specifically on Huberman and Crandall.

study of one school district's use of the program. He found widespread implementation in the classrooms of the Masepa (pseudonym) school district. Two of the explanatory factors singled out were "the quality and amount of technical assistance" and "sustained central office and building level support" (p.iii). The district arranged for certain principals and teachers to receive training at the developer's center. All teacher users received training and follow up assistance from the principal and other helping teachers who had received the initial training. Huberman (1981:68) comments:

> It was also decided that ongoing assistance should be provided, hence the idea of a "helping teacher" who would give workshops, demonstrate the ECRI techniques, provide supplies and materials, chair a monthly in-service meeting between users, provide on-demand consultancy".

The developmental nature of learning how to do something new was recognized by a policy of easing teachers into ECRI rather than expecting comprehensive implementation at once. Moreover, Huberman found that early difficulties were typical: "teachers, trainers and administrators all talk of a 'difficult', 'overwhelming', sometimes 'humilating' experience during the first six months, and for some during the initial two years" (p.81). He notes that almost every respondent attributed the survival of ECRI during this period to the strong administrative support and the helping teacher. Activities mentioned as valuable included frequent in-service meetings "during which teachers exchange tips, war stories, encouragements, complaints and formulated requests to the helping teacher" (pp. 70-71).

As Huberman describes it, the initial six months is a period of high anxiety and confusion. After some settling down, there still remains a significant period of relating the specific behaviors to the underlying rationale of the new program. After six months:

> "there is cognitive mastering over the individual pieces of ECRI, but little sense of the integration

> of the separate parts or, more globally, why certain skills or exercises are related to specific outcomes. Concern for understanding the structure and retionale of the program grows as behavioral mastery over its parts is achieved". (p.91)

2. Stallings: A Secondary School Reading Program

Stallings (1980, 1981) carried out a four-phase program in several districts in California focussing on the training of secondary school teachers to improve reading skills of students. In phase I the researchers observed in 46 classrooms to examine the relationship between what teachers did to address reading problems and what students achieved. The result of this phase was the identification of specific instructional approaches which seemed to work. In phase II, they used the findings from phase I to work with 51 teachers - half were trained, and the other half (the control group) received training only at the end of the experimental period. In phase III teachers were trained to conduct workshops and subsequently conducted the basic series of workshops for other teachers in the district. In phase IV, selected teachers were trained to act as leaders of training programs in their own districts.

When the most successful activities in phase I were identified, a group of 26 teachers were trained in the use of these activities (a control group of 25 teachers received no training). The teachers who were trained attended five workshops, held one week apart. Using pretest and posttest data the authors found that the teachers who were trained did use the instructional activities and did achieve greater gains in student reading ability over the year. Of the 31 criterion variables (measuring the implementation of specific instructional activities) the trained teachers changed over the school

year on 25, while the control teachers changed on only three. Phase III was interesting because it allowed comparison of the effectiveness of workshops led by teachers with workshops led by the project leaders. In following up the impact on classroom practice, the authors found that teacher-led groups performed equally as well as the group led by the project leaders. (Both groups implemented 17 of the 26 criterion activities used as indicators.)

Stallings (1981:13) characterized the approach as a "staff development mastery learning model" with four components: Pretest (observe teachers, start where they are); Inform (link theory, practice and teacher experience, provide practical examples); Organize and Guide Practice (provide conceptual units of behaviors to change, support assess, provide feedback, integrate); Posttest (observe and provide feedback to teachers and trainers).

From Stallings' description we do not get a clear idea of what was happening between workshops i.e., during the process. We do get some glimpses. For example, after the first session, each succeeding session started with the questions, "What did you try last week?" and "How did it work". If a teacher's attempt did not succeed, other teachers offered suggestions of methods they used for achieving the particular objective" (Stallings, 1981:17). At the end of the session teachers selected another behavior from the profile to try, and were asked to read some background material.

In addition to the classroom and direct training variables influencing success, Stallings and Mohlman (1981) examined several school level variables in eight schools. They found that individual teachers changed their behavior more in schools where the principal

was supportive and where the school policy was clear, consistently enforced and arrived at collaboratively. Even without attempting to influence these school level variables (something which could be done in future attempts at implementing the model), the treatment group achieved six months more gain in student reading scores than the control group.

3. Showers' Program of Coaching and Transfer of Training

In reviewing literature on in-service education, Joyce and Showers (1980) concluded that the following five components were essential for fundamental change: theory, demonstration, practice, feedback and coaching. While they did not provide specific examples of how these elements actually worked in practice, one can intuitively relate them to the previous two case examples; that is, the nature of successful change processes consists of a learning process over a given period of time among teachers (in this case) who interact around a specific change or innovation having the opportunity to learn about its underlying theoretical principles, to see it demonstrated and to practice, obtain feedback and ongoing coaching or support.

Showers (1983a, 1983b) recently designed a training application based on the above principles in order to test and specify them.[3] Showers notes that the mastery of a new teaching approach requires the teacher "to think differently, organize instruction in fresh ways, and to help children adapt to new approaches to teaching" (Showers, 1983 a:1).

In the experiment reported, 17 junior high language arts and social studies teachers were trained in three models of teaching during

[3] For other experiments which reinforce Showers' findings see Sharan and Hertz - Lazarowitz, 1982, and Mohlman-Sparks, 1983.

a seven week period totalling 21 hours of training (Showers, 1983a,b). Following initial training the sample was randomly assigned to a coaching treatment group (n=9) and a control group (n=8). Coaching is conceived by Showers to combine several elements: provision of companionship, the giving of technical feedback, and the analysis of application. Coached teachers "were observed once a week for five weeks and after each observation, met with a consultant for a coaching conference." One session provided opportunities for teachers to share specific lessons. All teachers were asked to "transfer" their learning by preparing and teaching a lesson using the same set of materials, but receiving no assistance with respect to instructional strategies. Transfer scores were derived through observation with respect to (1) teachers' technical competence in the use of the models, (2) ratings of the appropriateness of the model used given the objectives and (3) ratings of the teachers ability to teach the model to students as indicated by student response (Showers 1983a,b). Transfer of training scores for the coached teachers showed a mean of 11.67 compared to X=5.75 for uncoached teachers.

Showers makes several interesting observations: "During teaching of the final unit, coached teachers spent approximately twice as much instructional time at the conceptual and theoretical levels of information processing as did uncoached teachers" (p.11; recall that uncoached teachers received the same initial training as coached teachers). Factors which contributed to success included "practice with new models of teaching, successful experiences with the trained strategies, and understanding the requirements of transfer" (p.16). Showers corroborates one of Huberman's main findings that all teachers were initially "stymied by the discomfort of using a strategy awkwardly and unskillfully", (1983b:8), and that most of the uncoached teachers did not get beyond this "difficulty of fit" stage.

Showers also notes that the design was individualistic rather than organizational in focus, and that for the most part little support existed in the schools for the development of new teaching behaviors. She concludes that for coaching to occur on a broad scale, peer coaches will have to be trained. Showers observes that:

> "Peer coaching will necessitate some organizational changes for most schools, if time for observation and conferencing of teachers by teachers is to be possible. Furthermore, the establishment of conditions for peer coaching will necessitate the building of school norms which encourage and legitimize ongoing collegial attention to curriculum and instruction" (Showers, 1983a:19).

4. Little's Study of Six Urban Schools

Little's (1981) indepth research in six schools is significant because it focusses on the school norms and work conditions conducive to staff development and improvement, which Showers and Stallings cited as important but missing or uneven in the schools in which they worked. The most concise, complete summary of the role of these school level factors can be found in Little's own words:

> School improvement is most surely and thoroughly achieved when:
>
> Teachers engage in frequent, continuous and increasingly concrete and precise talk about teaching practice (as distinct from teacher characteristics and failings, the social lives of teachers, the foibles and failures of students and their families, and the unfortunate demands of society on the school). By such talk, teachers build up a shared language adequate to the complexity of teaching, capable of distinguishing one practice and its virtue from another....
>
> Teachers and administrators frequently observe each other teaching, and provide each other with useful (if potentially frightening) evaluations of their teaching. Only such observation and feedback can provide shared referents for the shared language of teaching, and both demand and provide the precision and concreteness which makes the talk about teaching useful.
>
> Teachers and administrators plan, design, research, evaluate and prepare teaching materials together. The most prescient

> observations remain academic ("just theory") without the machinery to act on them. By joint work on materials, teachers and administrators share the considerable burden of development required by long-term improvement, confirm their emerging understanding of their approach, and make rising standards for their work attainable by them and by their students.
>
> Teachers and administrators teach each other the practice of teaching. (1981, pp. 12-13, her emphases)

Two of the six schools in Little's study evidenced a high percentage of these practices.

It is now appropriate to draw together the main conclusions of this section. I have left aside until part III important questions of who initiates change, voluntary versus involuntary change participants, the content of change, programmatic versus adaptive changes, and the like. Instead, I have attempted to start with a more basic question: what is going on at the individual level when people are changing. I have suggested that these microprocesses of change represent a black box in most studies of school improvement, because the studies fail to examine change at this level. I have presented four studies which do give us some insight into what might be happening as individuals experience change.[4]

In summary form, change at the individual level is a process whereby individuals alter their ways of thinking and doing (e.g., teaching in this case). It is a process in developing new skills and above all in finding meaning and satisfaction in new ways of doing things (see Marris 1975, Fullan, 1982). The four case examples elaborate on this process in mutually reinforcing ways in that they

[4] We can never get fully inside people's heads to understand all the details of change; my claim is that some studies bring us closer to inferring what these processes might be, and that maximizing our understanding in this regard increases our ability to manage change.

describe or imply:

(1) that change takes place over time

(2) that the initial stages of any significant change always involves anxiety and uncertainty

(3) that ongoing technical and psychological support assistance is crucial if the anxiety is to be coped with

(4) that change involves learning new skills through practice and feedback - it is incremental and developmental

(5) that the most fundamental breakthrough occurs when people can cognitively understand the underlying conception and rationale with respect to "why this new way works better"

(6) that organizational conditions within the school (peer norms, administrative leadership) and in relation to the school (e.g., external administrative support and technical help) make it more or less likely that the process will succeed.

(7) successful change involves pressure, but it is pressure through interaction with peers and other technical and administrative leaders.

In short, it is necessary to imagine and to understand as much detail as possible about the causal chains and interactions occurring within and between individuals in schools as they experience change over any given period of time before we can entertain seriously the issues of limitations and possibilities for deciding on the most effective strategies.

II LIMITATIONS TO STRATEGIES FOR IMPROVEMENT

There are limitations in our understanding of what makes effective schools work which are further compounded by limitations and complexities in transferring the understandings we do have to

other settings.[5] It is difficult to grasp the range of problems in deliberately attempting to improve schools because the potential problems are numerous, and are of very different types, that is, they occur at different levels of abstraction, some are internal to understanding examples of success, some are related to designing effective strategies for new situations, others are external to the particular situation at hand, and most are related to the simplicity-complexity paradox which characterizes social processes of change. In this section, I discuss briefly six types of limitations in our ability to bring about improvement through deliberate means. I do not claim that the list is complete, but it is far ranging and does represent at least six major aspects which people contemplating or engaging in change should carefully think through. I contend that it is essential to understand these issues before plunging into improvement programs. The six are:

1. Unsolvable problems
2. The nature and narrowness of goals
3. Demographics
4. Abstraction, misunderstanding and incompleteness
5. Transfer/Sequencing
6. Subtle combinations

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[5]This section is deliberately cautionary in highlighting important limitations which should be taken into account. It does not stress the impressive consistent findings in some of the research. Sections I and III are more "positive" in this respect.

1. Unsolvable problems

It is not too pessimistic to say that just because a problem exists does not mean it can be solved at this time and place. Effective schools research has indeed indicated that some goals in some situations have been successfully addressed. There are two limitations with respect to unsolvable problems. The first relates to the question of whether adequate solutions to certain problems exist. While there has been substantial progress in the past decade in specifying the nature of effective classrooms and schools, there is still a long way to go in understanding and developing effective instructional programs for what Doyle (1983) in his review calls "academic work":

> "Studies of the cognitive processes underlying academic work have revealed the enormously complex character of the operations and decisions that academic competence entails, a complexity that is often overlooked when the goals of school are discussed" (Doyle, 1983:170).

Teaching basic reading and mathematics is one thing, teaching students to think abstractly, analyze and solve problems and write effectively is another (see also Bussis et al, 1976 for a detailed analysis of the sophistication of effective open education teaching). It is not that there are programs unavailable to address the range of educational goals, but that they may not yet be up to the task, and/or may not be transferable due to lack of resources including the number of those trained to assist in the transferring.

The second aspect relates to the issue of resources just mentioned. Time and money allocated to any policy problem is always limited. Even if some of the technical know how exists, if it is a difficult problem, there simply and logistically is

insufficient time and other resources to resolve the matter on any scale in the foreseeable future. Sarason (1972) refers to this phenomenon as "the myth of unlimited resources", Wise (1977) as "the hyperrationalization of reform". This problem is not as obvious as it seems on the surface. It is not that people consciously believe that there are unlimited resources, but more that the solution (à la Shaw's brute sanity) fails to question the resource and feasibility implications. For example, to say that effective schools depend on instructionally active principals is a far cry from having such principals in the majority of schools. (And this is only one factor). As with so many other aspects of the change process, things working at cross-purposes must be combined - high expectations and limited resources.

2. The Nature and Narrowness of Goals

I have already mentioned the nature of educational goals as a variable. The effective schools research demonstrates that some goals (usually in reading and mathematics measured by standardized tests) can be addressed relatively successfully; this does not necessarily mean that other higher order cognitive and personal-social development goals can be achieved.[6] Another problem concerns the total set of goals for which the school is responsible. Devoting resources and attention to one or two goal areas is certainly a good way to improve goal attainment in those areas.

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[6] Rutter et al, 1979, Wynne (1983) and Weiss et al (1982) do address other goals, but this extension into other areas is only at the early stages.

But if this is done without thought or regard to other goal domains it is likely that the latter will suffer. Schools are overloaded with goals, but any improvement effort should explicitly consider not only what priority areas are served by improvement projects, but what might be the implications (i.e., unintended consequences) for other domains.

3. Demographics

Research on school effectiveness is limited by the kinds of populations studied (Cohen, 1983, Purkey and Smith, 1983, Rowan et al, 1983). Much of the research is based on small samples, at the elementary level, involving at lease quasi volunteer populations in inner city schools, which have relatively effective programs in existence (as distinct from studies which try to design and introduce new programs) and which compare performance on a small range of goals with inferior schools (low scoring rather than average scoring schools). There are some significant exceptions on some of these variables: Neufeld et al 1983 (see also Miles et al, 1983 and Farrar et al, 1983) focussed on effectiveness in secondary schools as did Rutter et al, 1979 and Stallings 1981); Eubanks and Levine 1983 and Clark and McCarthy, 1983 report on effective schools "projects" which were intended to bring about improvement through design (as distinct from identifying naturally occurring examples). These studies are exceptions, however. We do not know enough about community variables, differences in teacher populations, rural and suburban settings, large schools, longitudinal attempts at deliberate change, broader range of goals and measures of effectiveness and the like. These limitations in the knowledge we possess are especially critical for the remaining three problem

areas (abstraction, transfer / sequencing, and subtle combinations).

4. Abstraction, Misunderstanding and Incompleteness

Each situation is unique in its history, personalities and particular combination of variables. Research, even practical research, is by definition an abstraction of what is really happening. It is an attempt to take highly complex phenomenon and represent it in a more simplified manner. The effective schools research does this in an exemplary way in citing factors such as strong administrative leadership focussing on instruction, high expectations for students, clear goals and an orderly atmosphere, a system for frequent monitoring of progress, ongoing staff training, specific parent involvement.

I should like to raise three problems about understanding these findings sufficiently in order to use them in other situations. First, the factors are an abstraction across several situations. They have some generalizability, but at the expense of understanding fully any particular situation. For any specific situation other factors could dominate - a history of leadership instability, the relationship between teachers and the school board, an industrial strike in the community, and so on. Second, the factors represent statistically significant findings rather than full explanations of results. The strength of the relationships should be examined as well as the relative strength of different factors, and comparisons with a range of other schools (not just with ineffective schools) in different community settings (see Purkey and Smith, 1983:432).

Third, and above all, the existing research tells us almost nothing about how an effective school got that way - it tells us little about the process of change. Of the six factors listed in the previous paragraph how did they evolve in the particular situation? Were certain factors driving forces at the early stages? How and why did these factors get started? How did and do the six factors affect each other over a period of time? What are the causal chains and microprocesses in operation?[7] To illustrate: effective schools research aggregates data to the school level. We do not for example, have information on the differential success of classrooms within the so called effective or ineffective schools. We do not, of course, have even indirect data on how classrooms are being affected within the effective schools - the very process we would need to understand in terms of the interaction among the six (or whatever number) of factors as they affect classroom activities and learning.[8] Moreover, each factor is a surrogate for a host of actions and interactions which make up its true meaning and impact. Remember also that the majority of this research is on schools which somehow came to be effective, not ones which some group necessarily deliberately set out to improve. On the latter point, there is recently appearing some descriptions of projects in which there was a design and program for improvement (Clark and McCarthy, 1983, Eubanks and Levine, 1983). These studies are more specific about

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[7]For an exellent illustration of recreating and tracing complex causal chains in the school innovation process see Huberman and Miles, 1983.

[8]The purpose of Section I was to suggest and elaborate on some plausible descriptions and explanations of the process of improvement.

the phases and elements of the program (for example, Clark and McCarthy outline eight phases). Even these potentially more relevant projects do not provide much information on the process - the dynamics of selecting schools, the obstacles encountered, the ways in which problems were resolved- but they are a step in that direction. In sum, understanding success is more akin to being able to reproduce how a situation might be operating than it is to knowing a list of factors associated with success.

5. The Problem of Transfer/Sequencing

Assume we possessed quite complete knowledge about what makes for improvement and how it occurs (which as point 4 indicates, we do not). There would still be great difficulties in transferring that knowledge to other situations because knowing something is critical and getting it in place are two different things. In the 1970's the question was "how do I implement X or Y program". The response was "build better implementation plans taking into account factors A,B,C etc.". In the 1980's the question (ironically) has become, "how do I implement the implementation plan". Implementing improvement plans is problematic because (a) people may resist (unwillingness) or (b) people may not have the skills (inability), and (c) more generally, implementing a new program of improvement is a complex innovation process in its own right - each potential solution represents a whole new set of hows, and several factors must be worked on together. It is difficult to implement any one of the major factors known to affect improvement; it is of course much more problematic to attempt to alter and contend with several factors in an interrelated manner. What

works in one situation may not work on another; and there is not much research available on issues related to such questions as where to start, whether and how to sequence events, and what approaches might work under what conditions.

6. Subtle combinations

The last limitation is an overriding one. It concerns the simplicity-complexity paradox of change. On the one hand, examples of successful improvement make common sense. They can be explained by reference to a small number of key variables. It is obvious that they work (but not necessarily how). On the other hand, the intrinsic dilemmas in the change process coupled with the intractability of some factors make successful change a highly complex and subtle social process. Effective approaches to managing change call for combining and balancing things that do not apparently go together - simultaneous simplicity-complexity, looseness-tightness, strong leadership-participation (or simultaneous bottom up-top downness), fidelity-adaptiveness, and evaluativeness-non-evaluativeness. More than anything else, effective strategies for improvement require a feel for the process, a way of thinking which cannot be captured in any list of steps or phases to be followed. I will pursue these distinctions in Section III in the course of making some specific recommendations for developing effective strategies for school improvement.

III STRATEGIES FOR IMPROVEMENT

Just as there are many different ways to fail, there are different ways to succeed. This section is divided into two parts. The first sets out some elements which are common to success, that is, it describes what an effective school is. The second point considers alternative strategies which might be used for making schools more effective, that is, it deals with questions of how to get there. The focus is on recommendations for local district and school levels.

Factors Common to Effective Schools and Effective School Processes

My main interest is not in carring out yet another review of effective schools. I do however, want to attempt to capture the essence of how an effective school operates in order to highlight aspects of process which have been neglected. Following a division suggested by Purkey and Smith, 1983 (but not their precise list) I find it useful to divide the factors into two groups: the first group is a list of eight organization variables which is typical of the factors described in the literature as "characteristics of effective schools", the second group consists of four process variables which have been largely overlooked or inadequately understood. The organization variables need only be named because they are so familiar. There are slight variations from study to study, but the following eight factors are as accurate and complete as any:

1. Instructionally focussed leadership at the school level
2. District support
3. Emphasis on curriculum and instruction (e.g., maximizing academic learning)

4. Clear goals and high expectations for students
5. A system for monitoring performance and achievement
6. Ongoing staff development
7. Parental involvement and support
8. Orderly and secure support climate

The main problem from a strategy point of view, as I stated earlier is that such a list indicates neither the process of how the factors operate, or how to get them in place in new situations. They represent the tip of the iceberg. They say nothing about the dynamics of the organization. To comprehend what successful schools are really like in practice, we have to turn to additional factors which infuse some meaning and life into the process of improvement within the school. In reviewing material,[9] which does come closer to addressing process issues, there are four fundamental factors which in my view underly successful processes.

1. A feel for the process on the part of leadership
2. A guiding value system
3. Intense interaction and communication
4. Collaborative planning and implementation

It is these process factors which fuel the dynamics of interaction and development of the previous organization variables.

[9] In addition to the material in Section I, I have drawn on Purkey and Smith's (1983:444) discussion of process variables, Cohen's (1983) analysis of social conditions in effective schools, the implementation literature (Fullan, 1982) and Peters and Waterman's (1982) review and description of "excellent" companies (the latter review, while not on schools is compellingly congruent with the effective schools literature). Huberman and Crandall (1983), as I will indicate later, provide one of the most specific and insightful description available of the processes of change (involving the adoption and implementation of innovations).

1. Leadership Feel for the Process

It may seem that something as amphorous as "feel for the process" should have no place in any serious discussion of strategy. It is, however, essential to understand this phenomenon which characterizes effective leaders. It is best described in Peters and Waterman's (1982) discussion of "America's best run companies" and in Schon's (1983) work on "The reflective practitioner". There are two reasons for referring to this aspect as "feel". The first is that the number of factors which leaders must contend with in running and helping to improve organizations defies any step by step rational planning. There are simply too many variables to remember let alone to manage on this basis. The second reason relates to the fact that processes of improvement are intrinsically paradoxical and subtle. James March captures this in a marvelously accurate metaphor: "organizations are to be sailed rather than driven" (cited in Peters and Waterman 1982:107).

Organizations are complex, and ironically the way to manage complexity is by simplifying matters. Peters and Waterman refer to several related notions of feel:

> "As information processors, we are simultaneously flawed and wonderful. On the one hand, we can hold little explicitly in mind, at most a half dozen or so facts at one time. Hence there should be an enormous pressure on managements - of complex organizations especially - to keep things very simple indeed. On the other hand, our unconscious mind is powerful, accumulating a vast storehouse of patterns, if we let it." (pp.55-56).

> "We are more influenced by stories (vignettes that are whole and make sense in themselves) than by data (which are, by definition, utterly abstract)"(p.61)

> "As another coping device, the excellent companies focus on only a few key business values, and a few objectives" (p.65).

Peters and Waterman refer to an experiment involving chess master players in which the players were asked to look for ten seconds at a game in progress.

> "chess masters could later recall the locations of virtually all the pieces. That doesn't fit with short term memory theory at all.... Simon [the researcher] believes.. that the chess masters have much more highly developed long-term chess memories, and the memories take the form of subconsciously remembered patterns.... They begin with the patterns: Have I seen this one before? In what context? What worked before?" (pp.66-67).

Further:

> "Our excellent companies appear to do their way into strategies, not vice versa. A leading researcher of the strategic process, James Brian Quinn, talks about the role of leadership in strategy building. It doesn't sound much like a by-the-numbers, analysis - first process. He lists major leadership tasks, and the litany includes amplifying understanding, building awareness, changing symbols, ligitimizing new viewpoints, making tactical shifts and testing partial solutions, broadening political support, overcoming opposition, inducing and structuring flexibility, launching trial balloons and engaging in systematic waiting, creating pockets of commitment, crystallizing focus, managing conditions, and formalizing commitment....The role of the leader, then, is one of orchestrator and labeller: taking what can be gotten in the way of action and shaping it - generally after the fact - into lasting commitment to a new strategic direction. In short, he makes meanings." (pp.74-75).

> "An effective leader must be the master of two ends of the spectrum: ideas at th highest level of abstraction and actions at the most mundane level of detail... it seems the only to instill enthusiasm is through scores of daily events, with the value-shaping manager becoming an implementer par excellence. In this role the leader is a bug for detail, and directly instills values through deeds rather than words: no opportunity is too small. So it is at once attention to ideas and attention to detail" (p.287).

> "On the one hand, size generates legitimate complexity, and a complex systems or structural response is perfectly reasonable. On the other hand, making an organization work has everything to do with keeping things understandable for

> the tens or hundreds of thousands who must make things happen. And that means keeping things simple" (p.306).

I have quoted liberally from Peters and Waterman because, I believe they are describing exactly the more wholistic, life-blood, real process of managing improvement which is hidden behind superficial phrases such as "focus on instructional leadership". The small number of studies in education which do attempt to portray the effective principal in action tend to corroborate this interpretation (Dwyer et al, 1983, Blumberg and Greenfield, 1980, also Barth and Deal, 1982). Managing and facilitating improvement involves a way of thinking about the improvement process which draws on knowledge about the major factors associated with success, but employs them in a non-mechanical manner along with intuition, experience and an assessment of the situation as a whole. It is simultaneously having and using knowledge about factors common to success, and possessing the orientation and ability to appreciate each situation to a certain extent as unique (see also Lindblom and Cohen, 1979, and Schon, 1983).

The point of this section is that we must understand the true nature of leadership, before we can develop strategies for developing more effective leadership in other situations. Moreover, such development may not be as mysterious and unachievable as it appears, for it requires training in common factors related to success (which is relatively straightforward), and opportunity and mechanisms for reflection in action (which is complicated). Schon refers to the powerful potential of this untapped source

of learning:

> "Managers do reflect-in-action, but they seldom reflect on their reflection-in-action. Hence this crucially important dimension of their art tends to remain private and inaccessible to others. Moreover, because awareness of one's intuitive thinking usually grows out of practice in articulating it to others, managers often have little access to their own reflection-in-action" (Schon, 1983:243).

Finally, the very process of becoming a more effective leader, from a psychological and learning point of view, parallels the process of becoming a more effective teacher, that is, it requires theory, practice, demonstration, feedback, support (see Section I); in short, developing new skills and conceptions.

2. Values

A second major enabling factor distinctive of effective schools and organizations is the presence of a clear, explicit, implemented value system. In the effective schools research the specific values identified are high expectations for students, commonly shared goals and a strong sense of community (see Cohen, 1983). The instructional mission of the school is valued as primary, along with clear rules, genuine caring about individuals, collegiality, and a commitment to quality through examination of detail (solid, specific information) and continuous improvement.

Again Peters and Waterman's findings are remarkably similar. Successful companies are "close to the customer", are obsessed with meeting the needs of clients, have a strong sense of care and respect for individuals, and have "a bias for action" (they do things). Excellent companies are clear on what they stand for and create a shared sense of highly valued purpose: "the culture

regulates vigorously the few variables that do count" (p.105); and "a set of shared values and rules about discipline, details and execution can provide the framework in which practical autonomy takes place routinely... The "rules" in the excellent companies have a positive cast. They deal with quality, service, innovation, and experimentation" (p.322). The mix of values represents another example of the subtlety of the improvement process: virtually all excellent companies are driven by just a few key values, and then give lots of space to employees to take initiatives in support of those values" (pp. 72-73). Pressure and autonomy co-exist.

3. Intense Interaction and Communication

The case examples in section I were especially illustrative of the ongoing interactive character of successful change processes. Interactive relationships take place with a range of partners (other teachers, the principal, parents, external support personnel), in a variety of formats (one to one, small group, larger group, training sessions, planning and sharing meetings, etc.), on a sustained basis focussing on specific problems or innovations. Getting people acting and interacting represents a major route to change (i.e., beliefs, new conceptions follow action more than they precede it).

Peters and Waterman's (1982) findings strongly support and elaborate on the critical role of constant communication:

> "Interact, test, try, fail, stay in touch, learn, shift direction, adapt, modify, and see are some of the verbs of the informal managing processes" (p.50).

> "After all, who in his right mind would establish Management By Wandering Around as a pillar of philosophy, as HP [Hewlett-Packard] does? It turns out that the informal control through regular, casual communication is actually much tighter than rule by numbers, which can be avoided or evaded" (p.51).
>
> "The nature and uses of communication in the excellent companies are remarkably different from those of their non excellent peers. The excellent companies are a vast network of informal, open communications. The patterns and intensity cultivate the right people's getting into contact with each other, regularly, and the chaotic/anarchic properties of the system are kept well under control simply because of the regularity of contact and its nature" (pp.121-122).

Furthermore, the constant communication and information sharing serves as a continuous source of support and pressure among peers. As Peters and Waterman (1983:240) observe: "nothing is more enticing than the feeling of being needed, which is the magic that produces high expectations. What's more, if it's your peers that have those high expectations of you, then there's all the more incentive to perform well". Coupling the action focus with intense interaction and information sharing tends to produce positive change. In the field of education, almost identical confirmation is provided by Huberman and Crandall (1983) in their summary of the DESSI study (Dissemination Efforts Supporting School Improvement) which makes it crystal clear how and why this process of pressure and support works to produce improvements in schools.

4. <u>Collaborative planning and implementation</u>

The question of collaboration between leaders and implementers represents another paradoxical area. There is certainly clear evidence that central or external to the school <u>initiation</u> of change efforts can work well and may indeed be essential in many situations if anything is to happen (Eubanks and Levine, 1983, Huberman and

Crandall (1983). Moreover, Huberman and Crandall (1983) explain in some detail that central office pressure along with high assistance is a powerful combination (whereas pressure without assistance is disastrous). On the other hand, several studies have found that collegial decision making within the school is strongly related to improvement (see Little (1981); Berman et al's (1981, 1982) analysis of the California School Improvement Program; Eubanks and Levine's(1983) summary of four major Effective Schools Projects; and Cohen's (1983) and Purkey and Smith's (1983) review of the effective schools research).

I believe that the apparent contradiction can be explained in two ways. First, there is no contradiction. As stressed earlier, successful change processes combine elements that on the surface do not go together. In this case, central initiation and direction is coupled with decentralized (school based) analysis and decision-making. In order for school based improvement efforts to work, central office staff must take an active interest in it by providing direction, assistance, prodding, and by expecting and asking for results. Eubanks and Levine (1983) describe the combination.

> "Our examination of the effective school approaches described in this paper indicate that they tend to include both a top-down and a bottom-up emphasis in planning and implementation.
>
> In each of the projects, for example, central management has delineated some of the elements that must be addressed in individual school plans, has acted (or tried to act) to make sure that adequate assistance is provided for participating shcools, has closely monitored project development in the schools, and has been or is is in the process of formulating plans to intervene at less successful sites.
>
> On the other hand, each project also places heavy

> emphasis on planning and adaptation at the individual school level, on providing "process" assistance to support bottom-up planning and decision-making, and on helping participating schools address problems that are particularly salient to them" (Eubanks and Levine, 1983: 42; their emphasis).

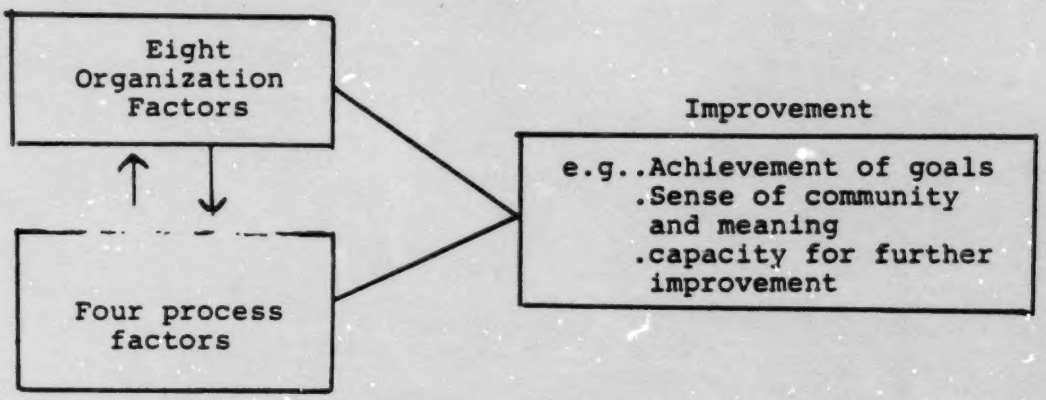
The second explanation is that for some changes, namely, innovations which are well developed, validated, structured, programmatic, and focussed, central district decision-making combined with intense assistance driving implementation can and does work. There appears to be little participation in decisions. Berman (1980) speaks to this matter in his comparison of programmatic and adaptive situations. The success of the Direct Instruction Model of Follow Through is patterned on this approach (Gersten et al, 1981). And Huberman and Crandall's (1983) depiction of one of the main routes to improvement which they found in the DESSI field study also captures this process. In describing the process in examples of successful mandated use they found that:

> "the central office administrator, who is usually responsible for curriculum and special projects, puts pressure on users to adopt or develop the practice. Such strong-arming can, and often does, lower users' initial commitment. When, however, substantial assistance is supplied, it tends both to increase users' level of technical mastery and subsequently their commitment.... The general picture is one of administrative decisiveness, accompanied by enough assistance to increase user skill, ownership and stable use.. (Huberman and Crandall, 1983:65).

While such a process may be entirely appropriate for some changes, it tends in my view to be limited to already well developed innovations which focus on classroom changes - it can result in major change in the classroom, and this is no small feat. However, for school-wide changes (e.g., altering the eight organization factors cited earlier) more top-down/bottom-up

combinations are required.

To conclude, in a nutshell the model of successful change processes is one whereby the eight organization factors, supported and fueled by the four process variables produces school improvement. It can be represented briefly as follows:



Most of all, I have claimed that it is imperative to understand and appreciate the actual dynamics of the change processes as they unfold. I suggested that, however change gets initiated, that once it begins it consists of a process of anxiety and uncertainty for those involved, and (if successful) of the development of new skills, cognitive understandings, beliefs and meanings. Whether or not the process is successful depends on certain organizational conditions which support and propel the process. Finally, leaders must alternately and simultaneously balance and contend with several dilemmas, paradoxes and subtleties: simplicity-complexity, top-down-bottom-up, tight-loose, evaluative-non-evaluative, and commonness-uniqueness of situations.

Strategies for How to Get There

What should the superintendent armed with the knowledge and understanding of the material discussed up to this point do if he or she

wishes to bring about improvement at the school level?[10] To zero in on a range of strategy suggestions I will discuss two options: strategies which are innovation focussed; and strategies which are school-wide (or department focussed). The innovation strategy will be presented in considerable detail because many of the specific ideas are common to effective approaches using the second strategy orientation.

In the concluding section of the paper I will discuss the strengths and limitations of the two strategies and draw out some comparisons to other related approaches. I will comment on possible differences between elementary and secondary schools, and rural and urban communities. Finally, I will take up three difficult issues which are vexing in any strategy: what to do about voluntary versus involuntary participation, small versus large scale (few schools versus many), and fidelity versus adaptation (or homogeneity versus variation in implementation).

Innovation Focussed

It is helpful to think of three broad phases of the change process - initiation (including mobilization, adoption decisions, development), implementation (putting the change into practice), and institutionalization (building in the innovation) (see Berman, 1981 and Huberman and Crandall, 1983). Continuous planning, action, reflection is required at all three phases. The innovation focussed strategy is one whereby the main approach to school improvement is through the identification, adoption or development of specific proven or promising

[10] Recall that this paper addresses the question of strategies for local districts. Strategies for other roles (teachers, parents, principals, the state, etc.) should also be developed (see Fullan, 1982). There are of course some obvious implications for some of these other roles in this paper.

new programs. While there is no one best way (largely because each situation has its own history and combination of factors), the following eight guidelines constitute a strategy or range of strategies which seem to have worked in many situations referred to in this paper:

1. Developing a plan.
2. Clarifying and developing the role of central staff.
3. Selecting innovations and schools.
4. Clarifying and developing the role of principals, and criteria for school based processes.
5. Stressing staff development and technical assistance.
6. Ensuring information gathering and use.
7. Planning for continuation and spread.
8. Reviewing capacity for future change.

1. Developing a plan

The most general advice is to develop a plan consistent with our knowledge of effective change processes. This is not as vague as it sounds. First, it assumes that a plan should be developed. The leader both individually and in collaboration with those around him or her should think through and develop some procedures and a way of going about change. There are reinforcing checklists that can be used: How is each of the eight organization factors being addressed? The four process factors? Approached from another angle, how does the plan systematically incorporate guidelines 2 through 8 which are discussed below.

There is one major caution to be observed: when one or a small group of people develop a plan, it is only their plan; therefore, educating and being educated by others who will be

participating in the change process is essential. Mechanisms for testing, getting feedback and altering the plan are very important especially if the plan represents a new approach to planning in the district. The degree of collaboration in this level of planning can differ. It is possible for a small group to do it, provided that the use of it permits modifications. Obtaining wider representation can be helpful in getting it more sound in the first place. There is also a caution in enlarging the planning group: energy spent on elaborate planning can be at the expense of energy spent on implementation - it is better to do a small amount of pre-implementation planning, and a large amount of implementation planning/support rather than vice-versa. And no matter how representative the planning group, any decisions they make will be external for the majority of users. Finally, the specifics of any particular plan will differ from innovation to innovation depending on the nature of the change, the scale of its implementation, the characteristics of the schools using it, and so on. The underlying principles and guiding actions, however, are common to most successful efforts. The superintendent and other central office program leaders should get in the habit of developing plans based on their experiences, knowledge of the situation, and research findings, and trying out, reflecting on and modifying the approaches.

2. <u>Clarifying and developing the role of central staff</u>

A second ongoing task relates to the need for the superintendent (or any other program leader seeking improvements) to clarify and develop the capacity of central district staff to support innovation development and implementation. Again at the general level, this involves helping them become aware of the research on

effective change processes and suppcrting/pressuring staff to learn further by doing. In the same way that the principal who interacts regularly with teachers in relation to an innovation has a strong positive affect, the central district leader who interacts regularly with district staff (and for that matter with principals) in relation to the innovation process has a strong impact on improving their ability as change facilitators.

The exact role of central office staff members can and does differ from person to person, or sometimes from innovation to innovation. The role of central office administrators and staff has not been widely studied in relation to implementation. Fortunately, Crandall et al, 1983, and Huberman and Crandall, 1983, in their large scale study of NDN, Title IVC Adoption grants, and IVC Development grants did trace and document the role of central staff and their impact on change in practice. Among the critical roles they play are: scanners, adapters and advocates of promising new practices, direct implementation assisters to teachers, teaming with an external to the district facilitator by providing implementation assistance after an external has conducted front-end training, and indirect roles such as the training of principals and/or resource teachers who provide direct support to teachers. Crandall et al, found that central office administrators and staff were the primary initiators for identifying and advocating promising practices developed outside the district, and for promoting locally developed innovations (locally developed innovations as they point out were still external to most classrooms using the innovation since the latter had been developed outside the schools of most teacher users). And,

central staff were critical for overseeing or seeing to it that something was happening at the school level (as indicated this could range from active involvement with teachers to active involvement with principals or other internal to the school facilitators).

The message is clear - central office administrators must be actively involved (directly or indirectly, but actively) throughout the process, not just at the initial or tailend (evaluation) phases. The particular configuration of central office staffing will vary, but Huberman and Crandall (1983: make six specific suggestions derived from their research and insights:

(1) Invest selectively in pre-implementation assistance (the biggest payoff appears to be materials rather than lots of formal training at this stage).

(2) Expect, but try to limit, changes in the innovation (if the innovation has been well developed and proven (e.g., NDN innovations) hold out for more fidelity (faithful implementation) at the early stages. The early stages are always marked by difficulties during which both assistance (to facilitate mastery) and supervision (to keep users on track) are necessary,[11] Huberman and Crandall also note that for local innovations which are still being developed the approach would be different in which development (modifications) during implementation would be promoted).

(3) Keep central office administrators involved (they deliver critical follow-up support and appear to keep principals busier ministering to the projects than would have happened otherwise. Huberman and Crandall (1983:55) suggest: "one could imagine, for instance, the benefits of providing a special mini-course on administrative features of the innovation and what it means for administrative support during implementation".

[11] To be clear: early difficulty does not indicate that the innovation is working; it may be an indicator that the innovation is poorly developed, or that little interest is being shown after adoption. The point is that even with a good innovation and good support there will be major uncertainties at the initial stages of use.

(4) Invest more in later rather than earlier commitment of users
(people get committed as a result of involvement more than as a prelude to it. Commitment comes from technical mastery which occurs during implementation. Invest in assistance and sharing during this period.)

(5) Specialize external facilitators
(some external developers, consultants are needed as initial trainers, some work better with teachers; some with local facilitators or school administors.)

(6) Invest in local facilitators
(whether in the form of central office consultant or project director, or part-time resource teachers at the school level, or a combination, local facilitators are critical for implementation. Huberman and Crandall (1983) found that implementation was far greater in situations which contained external and internal facilitators compared to situations in which only the external facilitator was involved.)

In short, work needs to be done on developing the capacity of central office staff in fulfilling and balancing the initiating and assistance roles in implementing innovations.

3. Selecting Innovations and Schools

Three suggestions can be made pertaining respectively to initial decisions, availability of needed innovations, and school readiness.

In the initial choice of innovations, a school district can take two different orientations, which we can label "relatively school initiated" versus "relatively district initiated". In the former the approach to change is to support schools to consider and make decisions about which innovations to adopt. In the latter, the central office staff are more active in proposing and deciding on innovations with varying degrees of agreement from the school. Note (1) that districts can use both

orientations at once (i.e., encouraging and supporting individual schools to decide on innovations, while touting and mandating particular ones from time to time), (2) that while initial decision-making may differ, central office staff can play a major role in both cases; for example, in the school initiated case central staff are critical for making schools aware of potential innovations, and for seeing to it (directly or indirectly) that implementation assistance is available.

Secondly, a system should be developed for scanning the external (to the district) and internal environments for potential innovations which meet a need in the district. On the one hand, this consists of searching for promising new practices through the NDN network, information retrieval systems, various awareness conferences, etc. and generally, looking for opportunities for identifying and introducing worthwhile changes, or for bringing them to people's attention for possible adoption. On the other hand, it involves looking for interest in and funding for the development of new practices internal to the district. In either case, the focus would be on questions of <u>need</u>, clarity availability and quality of <u>materials</u>, and <u>provisions for follow up assistance</u> (see Huberman and Crandall, 1983:42). For the externally adopted innovation the emphasis would be on helping to get the program into place (with or without adaptation). For the internally generated program the first concern would be to provide support for <u>developing</u> the program (in terms of materials, provisions for follow up, etc.) with the secondary

concern, namely, the spread of the innovation within the district, being pretty much the same as for externally developed changes (i.e., it would be external for all those users who were not involved in its development).

The third strategic matter relates to selecting schools on school readiness. This can be pursued in different ways. Schools can be encouraged to select/develop their own innovations; others can be invited to adopt a given innovation; they can be advised that they should adopt a particular change; or they can be mandated to participate. All other things being equal voluntary participation is obviously better. But initial indifference or even opposition can be turned around if the innovation has high quality, meets a need once tried, and users are given helpful, ongoing assistance during the early stages of implementation (more about voluntary/involuntary participation later).

4. Principals and other school based criteria

The single most important message here is invest in the instructional/change management leadership role of the school principal. There has been an explosion of research in the past five years on the role of the school principal in school improvement (for summaries see Bossert et al, 1982, Leithwood and Montgomery, 1982, and Mulhauser, 1983; see also Hall et al, 1983, Dwyer et al, 1983, and the large scale research studies - DESSI (Crandall et al, 1983) and the School Improvement Program (Berman et al, 1982). This is now being followed by the rapid

development of in-service training programs for principals based on the research findings (see NIE's Directory (1982), and Leithwood, Stanley and Montgomery, 1983 for one specific example).

Approaches for strengthening the role of the principal must be pursued at two levels: specific (specific innovation focussed) and general (ongoing mid and long term development). We have already touched on several aspects of the specific role. The principal is very influential when he or she voices and demonstrates commitment to an adopted innovation, and follows through by seeing that ongoing assistance, interaction, etc. occurs within the school. Sometimes the principal is the direct assister; in some situations he or she actively facilitates assistance by others; in still other situations the principal responds supportively to the activities of teachers or other facilitators. In short, in adopting specific innovations (regardless of the route) districts would be well advised to offer a mini-course with appropriate follow up for school principals, helping them (a) to understand what the innovation is and (b) to identify the types of administrative actions that should be taken to support implementation and later institutionalization. Just as ongoing assistance to teachers is crucial, so is ongoing assistance to principals: interaction between supervisors and principals, peer sharing among principals, receiving ideas, trying them out, discussing them, taking more action, etc.

The general strategy is directed to increasing on an incremental, ongoing basis, the capacity of school principals

in the district as school improvement leaders. Four suggestions can be made:

(i) In-service education
The attention here is devoted to increasing the capacity of existing principals. In addition to encouraging continuous professional development in a variety of ways (e.g., supporting and encouraging principals as individuals to participate in leadership courses and workshops), I believe there are two more focussed measures that could be taken. One is to conduct a mini-course for principals (or subgroups) directly on the role(s) of the principal as a facilitator of implementing innovations. The knowledge and technology, as stated, is available for such a course. Follow through assistance as with teachers is essential. A second and perhaps more effective way (if one were choosing between the two approaches) is to use the training associated with introducing a specific innovation to address explicitly the general skills and implications to be learned. In other words, the focus of training would not only be directed at how to implement X or Y innovation, but would explicitly address the goal of "what are the lessons for how to do it better the next time". Since this would entail back-end training for the purpose of building on the specific experience, it could also reinforce the later stages of implementation of the specific innovation.

(ii) Strengthening the Farm Club
At the same time, districts should pay attention to identifying and developing the talents of assistant principals, vice-principals, department heads, resource teachers, etc. as school improvement leaders. This should be done through formal (mini-courses) and informal (interaction, apprenticeship, etc.) means. Doing this serves the double purpose of improving the skills of leadership staff in their current roles, as well as developing a talent pool for future principals.

(iii) Selection procedures for principals
Historically, and by and large currently, principals are not selected on the basis of their skills as instructionally oriented improvement leaders (for one of the few studies on this topic see Baltzell and Dentler (1983a,b). Now that we possess increasingly specific knowledge, the recommendation is that school districts develop procedures and criteria for selection of principals (and for that matter, vice-principals, department heads) which are based on demonstrated

interest and basic skills in leading/supporting school improvement efforts.

(iv) Transferring, circumventing and getting rid of the deadwood
While districts are best advised to concentrate on the previous three strategies, it will also be necessary from time to time to figure out ways of: moving principals who are not working out to other schools (where a fresh or more compatible start may be possible); transferring certain principals to non-principal positions; arranging for early retirements; and of looking for alternative (to the principal) leadership roles for specific innovations (such as assistant principals, project directors, resource teachers). Sometimes it may be best to wait out the retirement making the best of the situation in the meantime. This is a very sensitive area, and school districts contend with it one way or another all the time. My own assumption is that by putting into place the various other approaches listed in Section III, that more and more principals will become effective change leaders (or put another way, it will be increasingly uncomfortable for the few who do not).

To turn to the principal's role within the school, I should like to stress other school based criteria mentioned earlier. It is the principal's role to help create the climate (collegiality, communication, trust) and mechanisms (time and opportunity, interaction, technical sharing and assistance, ongoing staff development) for supporting the implementation of innovations. This will form part of the in-service education for principals which is directed at helping to establish with teachers the necessary organizational conditions for implementation which have been described in this paper.

In speaking of school based criteria, I have said nothing about parents. The messages of research on the appropriate role of parents in innovation are not clear. There is some evidence that involving parents in instruction (in the classroom as aids,

and/or in home tutoring programs) at the elementary level has a positive effect on learning (see Fullan, 1982, Ch. 12). And there are some horror stories of what happens if the community is ignored when introducing major innovations (e.g., Gold and Miles, 1981). On the other hand, the DESSI study found many examples of major change in the classroom where parents and the community apparently played little or no role. The best advice for the elementary school would seem to be: at a minimum be wary that parents and the community are not oppossed to the innovation (this can be tested out in informal ways); at a maximum involve parents in planning and in instructionally supportive roles in relation to the innovation (many innovations at the elementary level have a parent involvement component).

Finally, I have said nothing about the differences between elementary and secondary school principals. Most of the innovation-focussed research has been on elementary school principals, so there are limitations in our knowledge. Some studies have found (and we can project) that many of the issues will be comparable, while others will call for different approaches (see Leithwood and Stanley, 1983). The main differences are likely to involve: working through and with vice-principals and department heads instead of more directly with teachers, and working with proportionately smaller sections of the school at any one time (Farrar et al, 1983:35ff.). (I have other suggestions for secondary schools which I will mention in the conclusion.)

5. Staff development and technical assistance

Staff development and assistance has been stressed at several points, so that we need only to summarize the advice:

(i) understand how the process of learning to implement an innovation actually works (e.g., case examples in Section I). Remember that learning to be proficient at something new involves initial anxiety, a variety of assistance, small experiences of success, incremental skill development, and eventually conceptual clarity and ownership.

(ii) invest selectively in front-end training - good demonstrations, materials, awareness, but not heavily into training (it is when people try out something that specific training makes most sens).

(iii) invest as heavily as possible in assistance during the early stages (e.g., the first several months, or the first school year). Use a variety of formats - workshops, one-to-one, sharing among users, meetings, visits, help from peers, administrators, district resource staff. Both event training (workshops, meetings), and ongoing assistance (one-to-one sharing, interaction with others on a daily basis) are needed. Look for ways of finding small amounts of time to foster interaction whether formally or informally (see Huberman and Crandall, 1983; and Louis and Rosenblum, 1981).

(iv) clarify and provide training for assisters (where appropriate) concerning who does what at which stages among: external consultants, district office resource staff, the principal, project directors, school resource staff, peers. Different patterns can work provided that all phases of the process are attended to (front-end, early implementation, later implementation or institutionalization), and that there is clarity as to who is responsible for different functions.

As Huberman and Crandall (1983:76) emphasize: "innovations entailing significant practice change live and die by the amount of assistance they receive". And, "providing aid does not mean mobilizing or bankrolling large armies of external consultants; most can be done locally, and a little [regular contact] goes a

long way. Simply arranging for teachers next door to one another to meet periodically pays handsome rewards" (p. 51). Small amounts of release time combined with other ways of finding in kind time through scheduling can have a powerful influence provided that other critical factors in the change process are in place.

6. Ensuring information gathering

There are three strategic tasks to be addressed relative to information gathering: the types of information to be collected; the degree of formality/informality of data collection, and the use of information. Good usable information during the process of change obviously supports problem solving and learning to use innovations more effectively. The first aspect - the what of information - refers to three types of information:

What is the state of implementation in the classroom?
(does classroom practice reflect the innovation)
What factors are affecting implementation?
(obstacles and facilitators to change in classroom practice, e.g., role of the principal, assistance, etc.)
What are the outcomes?
(e.g., student learning, skills and attitudes of teachers)

Information on any one of the three sets of factors by itself will be very limiting without some knowledge of the other two sets. Information on all three facilitates more specific planning and assistance.

The degree of formality/informality relates to "how" to gather the information. Formal methods involve surveys, interviews, observation, testing and the like; informal methods consist largely of continuous interaction among peers, between peers and administrators, and other facilitators. Both formal and informal methods of course are used in most school districts. It is a matter of relative emphasis - a question which can be partially clarified by turning to our third task.

Unless formal information is linked explicitly to a procedure for acting on it, it will likely do more harm than good. Hall and his colleagues (1977) have developed such a procedure which has met with considerable success. It primarily involves collecting information on levels of implementation, concerns of teachers, etc. and using the information for such tasks as planning and carrying out more focussed staff development, identifying specific leadership activities for principals, and so on (for one application involving Hall's procedure see the summary of Jefferson County in Fullan, 1982:170-172). Other researchers on information use in school districts have also stressed the importance of linking information to instructionally oriented management strategies for using it (Bank, 1981, Kennedy et al, 1981).

Perhaps, the most insightful and fundamental point, however, is the one stressed by Peters and Waterman (1982) earlier. Increasing the amount and variety of informal communication and interaction serves as a powerful informationally based system of

influence. Most of the previous tasks do precisely that - the role of central office staff vis-a-vis schools, the role of principals, the nature of staff development and assistance all function to increase the flow, variety and intensity of interaction and information. Stated another way, an effective informal communication system is essential both in its own right for influencing action, and without which even the most systematic formal data gathering procedures are next to useless.

7. Planning for continuation and spread

Successful implementation - attaining strong technical mastery and commitment to a new practice - is not the end of the story. In the absence of deliberate measures to build in the continuation of the innovation, the natural forces of attrition will result in its disappearance (see Miles, 1983).[12] Huberman and Crandall (1983) report from their study that accomplishing technical mastery of complex changes took some 18 months. What happened after that period was critical to the future of the innovation in the school. They observe in perspective:

> "In the chronicle of research on dissemination and use of educational practices, we first put our chips on adoption, then on implementation. It turns out that these investments are lost without deliberate attention to the institutional steps that lock an innovation into the local setting. New practices that get built in to the training, regulatory, staffing and budgetary cycle survive; others don't" (Huberman and Miles, 1983:70).

[12] Of course, it may be desirable to replace an implemented practice with a better one through deliberate decisions, but the point here is that good implemented innovations should not disappear by accident or neglect.

The advice then, is to have systematic plans to: train and assist new teachers as they are appointed, incorporate the new practice into formal curriculum plans and job descriptions, allocate a regular budget line item for materials, etc. to ensure that resources continue to be available, and above all when replacing people in leadership roles (principals, project directors, resource teachers) be clear about expectations and provide orientation and assistance (see Miles, 1983). Miles (1983:12) also adds that simply providing positive supports for institutionalization is not always enough. It is necessary to ward off threats coming from at least two sources: environmental turbulence (usually in the form of funding cuts), and career advancement (which creates gaps in program leadership). Within the school, the principal can perform or oversee the steps necessary for supporting continuation, while the central office staff can perform the same roles in relation to schools.

A second extremely important aspect of durability in the district (and important in its own right) which starts long before the institutionalization phase concerns the relationship between initial users and other potential users in the district. District staff would be well advised to consider this matter from the outset, and to attend to it from time to time during the process. First, it may be that the district strategy is to stress individual school autonomy. In this case, there would be more concern that each school is deciding on appropriate innovations for itself than about whether each school is adapting the same innovation (the dissemination or spread of particular

innovations across schools would be encouraged but not insisted upon). Second, districts may involve all eligible schools/users from the outset, although this is unlikely if a large number of schools were involved (it would not be feasible to provide adequate assistance of the type described earlier).

In any case, let us assume that the decision is to start with a smaller number of schools which represents a portion of eligible users, and the longer term desire is to see the innovation spread. There are two strategic questions to address: what to do during the first phase, and what to do in moving from the first to the second phase. As to the first phase, there is very little if any research on the relationship between first users and non-users during the process. To speculate: it would be undesirable to ignore altogether eligible non-users; for example, if the first group comes to be seen or sees itself for whatever reasons, as an elite group of progressive innovators it is bound to create resentment and barriers to spreading the innovation; therefore, it would seem to be wise to establish some informal lines of communication between users and non-users to allow the latter to become at least somewhat familiar with the change. This no doubt represents a dilemma since familiarity may result in demands for using the innovation, before the district is capable of supporting use (although this is likely more desirable than building up resentment or indifference, and it is possible that the voluntary demand will not be overwhelming).

Concerning the second phase - the spread from first to second generation users - there is at least one advantage and

one disadvantage. The advantage is that the results of the first cycle can be used as an infrastructure for dissemination; that is, materials, training, procedures, and personnel skilled in the new practice should be used to provide the assistance and administrative pressure/support for new implementers. Assuming implementation and attainments have been successful in the first phase, new users will likely be influenced positively by concrete examples, demonstrations, endorsements, etc. by other teachers. And as Huberman and Crandall (1983:77) note, if procedures for institutionalization have been attended to, the means of extending the practice will be built in. The disadvantage is that first users often have a pioneer status which is self-motivating, and which by definition is not available to later users. However, this may be more than counterbalanced by the refinement in practices, materials and support which can facilitate commitment through quicker technical mastery and corresponding goal achievement for later implementers.

Finally, it is clearly necessary to distinguish between eligible non-users within the same building as users, and those in other buildings. In the former case the school principal (or other internal facilitator) is the critical liaison person, while the latter requires coordination by district staff.

8. Reviewing capacity for future change

The ultimate goal of innovation-focussed strategies presumably is not to implement X or Y innovation and call it a day, but rather to increase the capacity of the district to

identify, consider, implement and institutionalize any number of appropriate innovations. I recommend, therefore, that from time to time and certainly at the end of any cycle, and the beginning of another one, that districts consider questions such as "how good are we at implementing innovations which bring about improvements, and are we getting better at it?"

In a sense, these questions represent a generic assessment of the basic factors considered in this paper: Are we making progress on the eight organization and four process factors discussed earlier in this section?; Have we increased our capacity to carry out the previous seven tasks listed here? Successful efforts should have skill and attitude-related spinoffs. Huberman and Crandall (1983:60) refer to several types of capacity change. Most of their examples relate to changes in pedagogical skills; in addition, there may be positive gains in "change process capacity", such as attitude and skill involving collaboration among teachers, principal-teacher relationships, leadership skills of district or building staff, etc. Districts should bear in mind from the outset these more general goals, should monitor them periodically, and should carefully take stock at the end of major cycles. After all, it is conceivable that a district could put tremendous effort into a particular program, be highly successful at implementing it, but that the effort be so draining on personnel that they do not want to try another innovation for a long time. Change involves pressure, assistance, skills, but in the not too long run, people must feel good about their relationships, sense of community, and sense of progress for the effort they are putting in.

School-wide Focussed Strategy

The school-wide strategy is presented in much less detail for two reasons: (i) many of the underlying principles and strategic emphases are the same as those for the innovation focussed approach, and (ii) there is not nearly as much research available on the actual micro-processes of implementation within the school. The essential difference in comparison to innovation based strategies is that the school-wide review takes a more comprehensive approach. Instead of implementing a given innovation in a few classrooms, the school-wide strategy engages the whole school or major subsections of it, and attempts directly to alter some of the organizational and process factors mentioned (pp. 20-21) as well as to focus on instructional improvements (or more precisely it attempts to change certain organizational conditions as a means to instructional improvement in the context of holding the instructional goals as primary).

The main elements of the school-wide strategy can be outlined by referring to two types of effective schools programs which have met with some success - California's School Improvement Program - SIP (Berman et al 1981, Berman and Gjelten, 1982), and some second generation effective schools projects in four major cities (reviewed by Levine and Eubanks, 1983; also see Clark and McCarthy, 1983).[13]

Berman et al's evaluation of SIP has not yet been completed. Their preliminary findings indicate some of the elements of success. First, Berman et al describe the purpose of SIP:

> "The program is aimed at improving the quality of instruction for a wide variety of student outcomes...

[13] Second generation projects are ones which are deliberately designed from the effective schools research.

> SIP requires a broad-based participatory planning process in which school staff and parents (and students in secondary schools) regularly review their school's instructional programs, design and implement improvements, evaluate the results, and replan accordingly. To implement SIP, the Department of Education has devised a mix of incentives, guidelines, and assistance, together with a combination of regulation and program reviews, all designed to promote local responsibility" (Berman and Gjetlen, 1982:ii).

Some of the noteworthy features of the approach are: schools receive funding directly (i.e., not through district offices) which provide substantial discretionary funds solely for SIP work; parents are involved in program planning; the school plan is directed at school-wide coordination, not to single innovations; the content of school program decisions is not prespecified but left up to the school; the State trains and uses peer reviewers to provide formative feedback to schools on their plans.

Berman and his colleagues identified three types of improvement which occurred: student centered (i.e., instruction), organization centered (climate, resources, etc.), and community relations. In a sample of 48 schools, and using fieldworkers' assessments, Berman et al found that a little over one half of the schools had "improved" (45%) or "improved greatly" (7%) over a five year period. Berman describes the "ideal" approach which many of the successful schools attempted to approximate:

> "a SIP school (a) develops a plan that aims to make gains in curriculum or instruction; (b) continuously evaluates the plan and improves it as needed; (c) engages in a broader school-wide planning process; (d) establishes a School Site Council (SSC) that decides on central issues in the school; (e) involves parents actively in SSC; and (f) supports staff development activities" (Berman and Gjelten, 1982:27).

In searching for explanations which differentiated successful from non-successful sites Berman et al tentatively identify four factors. Although these factors beg other questions, they are helpful in pointing to areas of investigation. Specifically they found that successful schools had active SSC's, SIP was central to the school's program (as distinct from "just another project"), the SIP plan was actually implemented, and the schools volunteered rather than were mandated. There are other hints about reasons for success including active interest and performance of the principal at the elementary level, secondary schools are more difficult to change, staff development and school climate are critical. While many of these findings are congruent with those in the previous section, they do not give us many ideas about <u>how</u> to get them in place.

The second generation effective schools projects provide more direct and specific guidance for school improvement (but still do not give details on the hows and processes). The New York City School Improvement project has eight phases:

1. program introduction, including selection of schools and accommodation of the liaison [each school has a liaison facilitator] into the school community;
2. a needs assessment conducted by the liaison;
3. formation of a school planning committee;
4. development of a school improvement plan based on the five school effectiveness factors [strong administrative leadership, high expectations for children, etc.];
5. plan review and approval;
6. implementation of the plan;
7. plan evaluation and revision; and

8. maintenance, during which implementation, evaluation and revision processes become cyclical" (Clark and McCarthy, 1983:18).

Clark and McCarthy report that plans were implemented in those schools where the principal was actively involved, that voluntary participation by the principal and staff was a significant variable, and that the liaison role is a complex one in providing assistance while avoiding overdependence.

Eubanks and Levine (1983) report on similar effective schools projects in four cities: Chicago, Milwaukee, St. Louis and New York. Their descriptions give more mention of the assistance (materials, in-service, follow up) and monitoring (review of plans, information gathering) activities conducted to combine support and pressure toward better implementation.

Given the intuitive allure of effective schools projects, and the lack of detail on process, what response should be made to the local decision-maker seeking advice? The first piece of advice is a caution. Nothing would be worse than establishing a grand scheme putting all schools in the district through the paces of developing effective schools plans. The best strategies come from combining the insights of the innovation focussed and effective schools research. The precise plan and range of factors addressed will vary according to the needs, interests, conditions, and style within the district. The following list of guidelines gives some indication and suggestions as to what must be attended to. Note that it is not that far removed from the innovation oriented list on page 32 except the initial focus is on the school not on an innovation.

1. Develop a plan
The school effectiveness approach views the school as the unit of change. The overall plan should consider how the main organization and process factors will be addressed (Cohen (1983) divides the factors into three levels - classroom, managerial, and shared values). The point is to have an overriding framework of criteria.

2. Invest in local facilitators
As with innovations, and as with the successful effective schools projects, each school must be assisted by someone trained in supporting the endeavor. In the case of effective schools, the assistance is directed toward facilitating and prodding the process.

3. Allocate resources (money and time)
Because effective schools projects attempt more, they require more resources. The projects reviewed allocated additional funds to schools for materials, technical assistance, release time for training and planning. It is important to note that it is not the availability of resources per se that counts, but rather their interaction with other factors on the list. But extra resources and time are required for teachers and others to observe, share, plan, act, and evaluate.

4. Select schools and decide on scope of projects
There is some argument about whether voluntary or mandated approaches should be used. If the program is a good one and reasonably well supported, there should be enough voluntary participating schools in most districts (even so called voluntary programs are strictly speaking not all that voluntary when the superintendent touts them). Mandated approaches, as in the innovation example, can work if the school plan is well implemented. This means that fewer schools can be worked with at one time because implementing a plan in an initial non-voluntary situation requires more intense assistance and follow up. Note also that initial mandates can and should be followed by participation in decisions about the nature of the school plan. People develop competence and commitment during implementation.

Scope concerns the number of schools and the proportion of any given school in the program. In relatively voluntary situations, it is possible to work effectively with 15 to 20 schools at a time (Levine and Eubanks, 1983). Related to the matter of number of schools is the question of how comprehensive and fundamental the reform should be within the school. Levine and Eubanks recommend that unless one is working with only one or two schools, that a more manageable portion be attempted (what they label "incremental, multi-school

reform"). In practical terms this means concentrating on one or two instructional areas (e.g., reading, math at the elementary level, or working with departments or other subsections of the school at the secondary level). To say that only a small number of instructional areas should be attempted is no small matter, because whatever the focus, the various organizational conditions supporting implementation must also be addressed thoroughly.

5. Concentrate on developing the principal's leadership role
The same suggestions as in the innovation focussed strategy apply here, except that the focus of leadership training is on developing school plans. Training and follow up support geared specifically to managing/leading the particular school improvement plan would be required.

6. Focus on instruction and the link to organization conditions
To start with a qualification, it is possible that certain non-instructional goals might be entirely appropriate (e.g., community relations, climate, attendance, etc.). The recommended suggestion to focus on instruction is to highlight the central function of schools and to take advantage of our recent knowledge about how to bring about instructional improvements. In the effective schools research critiqued earlier, it was noted that the link between school-wide factors and individual classroom change was obscure. Thus, effective schools strategies should zero in on classroom instructional change. There are several good examples of instructional improvement ideas - Stallings (1981) case described in Section I, Brophy's (1983) review of effective classrooms, selection or development of appropriate innovations (Huberman and Crandall, 1983). In other words, the effective school plan will incorporate and make explicit the relationship between instructional improvements at the classroom level, and corresponding organizational and value or normative changes (principal leadership, climate, higher expectations and the like - see Cohen (1983) for a discussion of the three levels of classroom, managerial and value changes). The one additional recommendation is to broaden the interest in instructional goals to include higher order cognitive and self and social development goals.

7. Stress ongoing staff development and assistance
The sine qua non role of staff development has been described in the previous strategy (p.43). The same ideas apply here in the service of front-end and initial implementation assistance in developing and implementing school plans. The assistance is of two types: (i) assistance in plan development and implementation (or, if you like, help in the process of improvement), and (ii) technical assistance at the level of the classroom in implementing selected instructional improvements.

8. Ensure information gathering and use
Again the idea is similar to the suggestions under the innovation strategy. A system for information gathering would be established relative to the nature of school plans, and to their implementation (i.e., their degree of implementation, obstacles encountered, and outcomes). The tension and balance between formal and informal systems of information would be considered. Internal to the school use of information should be the major goal during the first phases of planning and implementation.

9. Plan for continuation and spread
Identical ideas apply to this aspect of consolidating school improvement as they do for an innovation except the school effectiveness plan is the innovation to be institutionalized. The spread of school-wide planning to other schools can also follow essentially the same principles described in the earlier section.

10. Reviewing capacity for future change
At the end of a school plan cycle (presumably directed at some significant area of instructional improvement) the district should assist, or support the school in reviewing its experience. This represents a meta evaluation of whether the experience has been positive, whether it has increased the school's capacity to conduct school based planning and implementation, and what should be modified for the next cycle. Furthermore, the goal of capacity building should be explicitly recognized at the beginning of any cycle as a fundamental mid-term and long-term priority.

In summary, school-wide strategies are usually more comprehensive than specific innovation strategies, but in many respects they are parallel; the main difference is that "the school based plan and its implementation" is the innovation. The ten guidelines outlined above do not represent the one best way of going about school-wide changes. A perfectly acceptable and more streamlined approach may be to take a well worked out effective schools project which already exists (e.g., Eubanks and Levine's 1983 summary), and adapt it for use. However, because of the lack of attention and/or information on the processes involved, and because school-wide change processes are subtle and

complex the single most important additional recommendation is to apply the ten guidelines (or some similar version of organization and process factors) as a checklist to ensure that the basic details of effective change processes are considered and worried about.

Conclusion

I should like to close with a few important themes and loose ends including: strengths and limitations of the two strategies and comparison to other approaches; context differences with respect to elementary and secondary, and rural and urban schools; problematic dilemmas pertaining to voluntary/involuntary, small/large scale, and fidelity/variation orientations to change; and a reminder of the simplicity/complexity paradox and the subtlety of the change process.

The advantages of the innovation focussed strategy are that it is very targetted, and specific, there are many well developed and validated innovations available, and we know a great deal about how to go about it. If done well it does accomplish significant change in the classroom with positive outcomes for students and teachers. It is cost-effective in that small amounts of additional resources used to foster regular interaction go a long way. Its main disadvantages are that in most cases the strategy ends up being narrow (piecemeal innovations). Thus, it usually lacks perspective in assessing the wholistic direction of the school.

The school-wide strategy has the advantage of considering the school as a total unit, although in many applications it too has addressed limited goals. It addresses directly the school level organizational and process factors which form the foundation for effective change processes. It engages the whole school or large parts of it in a collective effort in school improvement. Its disadvantages are that it is more costly, we have less knowledge on exactly how to make it work in relating to the classroom, and there

is more danger that school plan making will become a ritualistic exercise which does not in fact produce worthwhile plans and/or plans which are effectively implemented. In short, it could become a bandwagon in which the labels, trappings and formal elements of effective schools projects are adopted, but not understood or implemented with any meaning or substance. Nonetheless, there are several examples of successful projects, and the best advice is to realize what is entailed at the level of attention to implementation detail.

We can extend the comparisons to other types of strategies. To take two extremes for example: One common approach involves systematic district-wide curriculum revision linked to outcomes based competency assessment (see Wise, 1979). It is possible to make this work to accomplish certain narrowly prescribed goals, but even at this level, it is highly unlikely that much will be accomplished unless the guidelines in this paper are built in. If they are not - for instance, if the main stress is on outcomes and accountability without providing assistance and opportunity for peer interaction and collaboration - the approach will do more harm than good. The other extreme is to stress school based autonomy. Without some district coordination and assistance to support school based planning, it is again probable that most schools would flounder on their own. Two conclusions seem warranted. First, the strategic elements described earlier form a necessary part of any successful improvement effort. Second, once that is said there is a dilemma which is not resolved and for which there is really no answer. It is the question of whether to use a "relatively district-wide strategy", or a "relatively school based" approach. As indicated above,

either requires some degree of ongoing district-school collaboration; the difference is in emphasis. My response is that specific curriculum accomplishments can be achieved through district-wide approaches, but that more comprehensive or fundamental change requires school-based development. In either approach, attention should be paid to developing the school's capacity for improvement.

At a few points in earlier sections, I referred to elementary/secondary comparisons. We do not know enough about the differences, because there have not been many attempts at classroom secondary school reform. Studies which have considered the differences suggest that secondary schools are less likely to change (e.g., Berman and Gjelten, 1982). On the other hand, Stallings (1981) was successful in bringing about classroom change, and Farrar et al (1983:35) have made a number of sensible recommendations which are congruent with our knowledge of the change process: clarify and work on specific goals, work with departments or other subunits, focus on curriculum and the classroom (something which has been neglected), use faculty task forces, specify front-end and ongoing training, establish more opportunities for program developers and users to share and collaborate, etc. We might add the need to develop in-service programs for secondary school principals, vice-principals and department heads relative to their roles in the improvement process.

I have not carried out a literature search on possible strategy differences in rural-urban communities, so that I will only highlight the need to examine this issue. Huberman and Crandall (1983) suggest that rural districts need (and respond to) more help in finding out

about available innovations, and more help in front-end training as they do not have the district staff or access to information as do urban districts. One would expect also that different approaches to the community would be needed.

The three problematic dilemmas referred to have been alluded to throughout the paper. First, what should be done about voluntary versus involuntary participation? My response has been manifold: go with volunteers as there are usually enough; in inviting volunteers make it clear that participation by all is eventually expected; make the invitation as attractive as possible by stressing the resources for assistance and collaboration among users; mandate some involvement if you will, but realize that more intensive assistance and direction will be required; use peers to influence other peers (within schools, and across schools); use school leadership as a leverage for change (through in-service, selective criteria, transfers, etc.).

Second, what should be done in choosing small scale versus large scale approaches? Again there is no clear answer. In fact there are two aspects of scale - the sheer numbers (of teachers, schools, etc.), and the magnitude or degree of significance or complexity that the change represents for individual users. My preference is to go with changes of significant complexity, but do it through incremental development starting with a smaller number of schools and spreading outward.

Third, what about fidelity versus variation? Huberman and Crandall's (1983) recommendation is that, if you are working with a validated innovation, you should emphasize faithful implementation at

the initial stages, because most users will "downsize" the degree of change. Variation and further developments can be accommodated at later stages. On the other hand, if you are not working with well proven innovations (or effective schools projects), or if you are deliberately emphasizing school autonomy, variation at the outset should be fostered as this is tantamount to developing the innovation through use.

To make a long story short, our knowledge of school improvement and implementation is becoming increasingly sophisticated. The specific strategies that work are eminently sensible. Putting them together in a particular setting on an ongoing basis is difficult, and requires leadership with both a commitment to and skills in the change process. In some situations of high conflict and internal or external crises (sometimes called turbulent environments), it will not be possible to bring about any of the improvements described in this paper, until the issues of conflict are addressed or subside. Timing, readiness and pre-conditions must be considered. When successful improvements are accomplished they involve individuals working in small groups and other collective ways, attaining technical mastery, a sense of success, and new meanings.

Strategies of the future, above all, should be based on collective professional development within the school rather than on the individualistic professional autonomy, or its opposite excessive dependence, which have characterized school norms and practice of the past.

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